

CC conjugate synergistically boost the magnitude of the host immune response
 CC against an antigen to a level greater than the host immune response to
 CC either the IMM, antigen or ISS-PV alone. These responses to ISS-PV/IMM
 CC conjugates are particularly acute during the important early phase of the
 CC host immune response to an antigen. The ISS-PV/IMM conjugates boost both
 CC humoral (antibody) and cellular (Th1 type) immune responses of the host.
 CC Thus, use of the method to boost the immune responsiveness of a host to
 CC subsequent challenge by a sensitizing antigen without immunisation avoids
 CC the risk of Th2-mediated, immunisation-induced anaphylaxis by suppressing
 CC IgE production in response to the antigen challenge. The conjugates can
 CC also be used to combat pathogenic infection and to stimulate therapeutic
 CC angiogenesis to treat conditions in which localised blood flow plays a
 CC significant etiological role, e.g., retinopathies

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.24;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGACGTTCCGAGATGA 22
 Db 1 TGACTGTGACGTTCCGAGATGA 22

RESULT 2.

AAV80097 standard; DNA, 22 BP.

XX AAV80097;

DT 12-MAR-1999 (first entry)

XX Immunomodulatory oligo comprising an ISS sequence.

XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
 KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
 KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; SS;
 KM B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

XX Synthetic.

XX MO985495-A2.

PD 10-DEC-1998.

PP 05-JUN-1998; 98WO-US011578.

PR 06-JUN-1997; 97US-0048793P.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Schwartz D, Roman M, Dina D;

DR WPI; 1999-059898/05.

XX Immunostimulatory oligonucleotides regulate the immune system - and
 PT contain an immune-stimulating octanucleotide sequence; for treating
 PT cancer, allergic and infectious diseases.

XX Claim 5; Page 29; 63pp; English.

XX The invention relates to immunomodulatory oligonucleotides that comprise
 CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
 CC sequences are selected from the group consisting of AACGTTCC, AACGTTCCG,
 CC GACGTTCC, and GACGTTCCG. The immunomodulatory sequences are used to treat
 CC patients needing immune regulation, such as those suffering from cancer,
 CC an allergic disease and asthma. They are also used to prevent infectious
 CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
 CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
 CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and
 CC Schistosoma. The immunomodulatory sequences are used to screen for human
 CC immunostimulatory activity by incubating macrophage cells and the

CC oligonucleotide; and determining the relative amount of Th1-biased
 CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
 CC specific claimed examples of such immunomodulatory oligonucleotides

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.24;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGACGTTCCGAGATGA 22
 Db 1 TGACTGTGACGTTCCGAGATGA 22

RESULT 3

AAV80103 standard; DNA, 22 BP.

XX AAV80103;

DT 12-MAR-1999 (first entry)

XX Immunomodulatory oligo comprising an ISS sequence.

XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
 KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
 KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; SS;
 KM B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

XX Synthetic.

XX Key Location/Qualifiers

FT modified_base 11 /tag= a

FT /note= "5-bromocytosine"

PN MO985495-A2.

PD 10-DEC-1998.

PP 05-JUN-1998; 98WO-US011578.

PR 06-JUN-1997; 97US-0048793P.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Schwartz D, Roman M, Dina D;

DR WPI; 1999-059898/05.

XX Immunostimulatory oligonucleotides regulate the immune system - and
 PT contain an immune-stimulating octanucleotide sequence; for treating
 PT cancer, allergic and infectious diseases.

XX Claim 24; Page 30; 63pp; English.

XX The invention relates to immunomodulatory oligonucleotides that comprise
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 CC sequences are selected from the group consisting of AACGTTCC, AACGTTCCG,
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 CC patients needing immune regulation, such as those suffering from cancer,
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 CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
 CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
 CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and
 CC Schistosoma. The immunomodulatory sequences are used to screen for human
 CC immunostimulatory activity by incubating macrophage cells and the
 CC oligonucleotide; and determining the relative amount of Th1-biased
 CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
 CC specific claimed examples of such immunomodulatory oligonucleotides

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

FEATURES
source location/Qualifiers
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/organism="unknown"
/mol_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 9
AR287741
LOCUS AR287741 22 bp DNA linear PAT 12-JUN-2003
DEFINITION Sequence 1 from patent US 6534062.
ACCESSION AR287741
VERSION AR287741.1 GI:31674761
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;
FEATURES location/Qualifiers
1..22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 10
AR287743
LOCUS AR287743 22 bp DNA linear PAT 12-JUN-2003
DEFINITION Sequence 3 from patent US 6534062.
ACCESSION AR287743
VERSION AR287743.1 GI:31674763
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;
FEATURES location/Qualifiers
1..22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 11
AR308057
LOCUS AR308057 22 bp DNA linear PAT 12-JUN-2003
DEFINITION Sequence 1 from patent US 6552006.
ACCESSION AR308057
VERSION AR308057.1 GI:31698950
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)

AUTHORS Raz,E., Kornbluth,R., Catanzaro,A., Hayashi,T. and Carson,D.
TITLE Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen
JOURNAL Patent: US 6552006-A 1 22-APR-2003;
FEATURES location/Qualifiers
1..22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 12
AR352573
LOCUS AR352573 22 bp DNA linear PAT 17-AUG-2003
DEFINITION Sequence 2 from patent US 6589940.
ACCESSION AR352573
VERSION AR352573.1 GI:33757824
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Roman,M. and Dina,D.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;
FEATURES location/Qualifiers
1..22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 13
AR383158
LOCUS AR383158 22 bp DNA linear PAT 18-DEC-2003
DEFINITION Sequence 1 from patent US 6610661.
ACCESSION AR383158
VERSION AR383158.1 GI:40092605
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Carson,D.A., Raz,E. and Roman,M.
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule

CAFE

SEARCH REQUEST FORM

Access DB# 148327

Scientific and Technical Information Center

Requester's Full Name: JANE ZARA Examiner #: 77512 Date: 3-21-05
 Art Unit: 1635 Phone Number: 302-0765 Serial Number: 091802,376
 Mail Box and Bldg/Room Location: 2028 Results Format Preferred (circle): PAPER DISK E-MAIL
by 2018 2028

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 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Immunomagic Formulations
 Inventors (please provide full names): Van Nest et al.

Earliest Priority Filing Date: 3-9-01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please Search Seq ID No. 1

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 Date Completed: 3/29/05

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